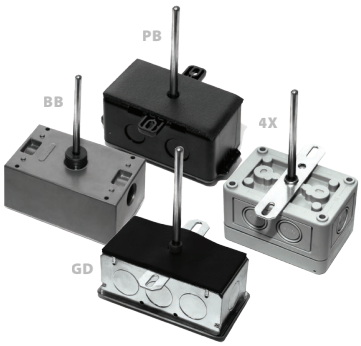

DUCT

Duct Sensor, Platinum RTD

The ACI Platinum Duct Series features a stainless steel probe with Etched Teflon colored lead wires to differentiate the different sensor types. The three-wire "-3W" option should be ordered when using with a 3-Wire temperature transmitter or sensor configuration on your building management system or PLC (Programmable Logic Controller). The purpose of the 3rd wire is to compensate for external lead wire resistance that will affect the accuracy of your sensor output. ACI recommends the use of an 18 AWG lead wires to reduce the external lead wire resistance when using a Platinum RTD. The sensors are manufactured using ACI's proven double encapsulation process to eliminate the effects of moisture on the sensors and to increase response times using our high quality, thermally conductive epoxy. The duct style sensor is a single point sensor designed to be used in smaller duct applications and includes an insulation pad for sealing the duct and dampening vibration. The sensor length should be determined by the width or diameter of your duct, such that the tip of the probe is in the approximate center of the duct. Standard enclosure options include the "-GD" Galvanized or "-PB" plastic enclosure with hinged cover. On larger ducts, our Rigid or Bendable Copper Averaging sensor may offer better coverage based upon the size of your duct system and sensor location. Optional NEMA/IP rated weather proof enclosures and NIST Certificates are available as referenced in the ordering grid.

Applications: Roof Top Units, Air Handlers, Monitoring Supply/Discharge/Return/Mixed Air Temperatures

The ACI Platinum Duct Series is covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website.

PRODUCT SPECIFICATIONS

Sensor Type | Sensor Curve:	Platinum RTD | PTC (Positive Temperature Coefficient)
Number Sensing Points:	One
Number Wires:	**A/100-2W-D Series** and **A/1K-2W-D Series:** Two (Non-Polarity Sensitive) **A/100-3W-D Series** and **A/1K-3W-D Series:** Three (Polarity Sensitive)
Sensor Output @ 0ºC (32ºF):	**A/100-xW-D Series:** 100 Ohms nominal | **A/1K-xW-D Series:** 1000 Ohms nominal +/- 0.06% Class A (**Tolerance Formula:** +/- ºC = (0.15ºC + (0.002 * |t|)) where |t| is the absolute value of Temperature above or below 0ºC in ºC)
Sensor Accuracy @ 0ºC (32ºF):	**-40ºC (-40ºF):** +/- 0.23ºC (+/- 0.414ºF) | **0ºC (32ºF):** +/- 0.15ºC (+/- 0.27ºF) **115ºC (239ºF):** +/- 0.38ºC (+/- 0.69ºF)
Din Standard | Temperature Coefficient:	DIN EN 60751 (IEC 751) | 3850 ppm / ºC
Sensor Stability:	+/- 0.03% after 1000 Hours @ 300ºC (572ºF)
Response Time (63% Step Change):	8 Seconds nominal
Self-Heating | Maximum Operating Current:	**100 Ohm RTD:** 7 mW/ºC (Still Air) | 5 mA | **1K Ohm RTD:** 4 mW/ºC (Still Air) | 3 mA
Enclosure Specifications (Operating Temperature Range, Material, Flammability, NEMA/IP Ratings):	**"-GD" Enclosure:** -40 to 115ºC (-40 to 239ºF); Galvanized Steel; NEMA 1 (IP10) **"-PB" Enclosure:** -30 to 90ºC (-22 to 194ºF); ABS Plastic; UL94-HB; Plenum Rated **"-BB" Enclosure:** Aluminum, -40 to 121ºC (-40 to 250ºF), Plenum Rated, NEMA 3R **"-4X" Enclosure:** -40 to 70ºC (-40 to 158ºF); Polystyrene Plastic; UL94-V2; NEMA 4X (IP 66)
Storage Temperature Range:	-40 to 85ºC (-40 to 185ºF)
Sensor Operating Temperature Range:	-40 to 392ºF (-40 to 200ºC)
Operating Humidity Range:	10 to 95% RH, non-condensing
Probe Material:	304 Stainless Steel
Fitting Material | Flammability Rating:	Polyamide 66 (High Performance Nylon) | UL94-HB
Foam Pad Material | Flammability Rating:	Neoprene/EPDM/SBR Polymer | UL94-HBF; FMVSS-302; MIL-R-6130C
Lead Length | Conductor Size:	**4", 6" & 8" Sensors:** 14" (35.6cm) | **12" or 18" Sensors**: 24" (61cm) | 22 AWG (0.65mm)
Lead Wire Insulation | Wire Rating:	Etched Teflon (PTFE) Colored Leads | Mil Spec 16878/4 Type E)
Conductor Material:	Silver Plated Copper
Product Dimensions | Product Weight:	See table on back of Product Data sheet
Probe Diameter:	0.250" (6.35mm)
Agency Approvals:	CE, RoHS2, WEEE

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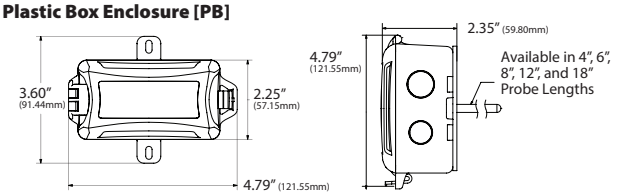
DIMENSIONAL DRAWING, WEIGHTS

xx = Sensor Type | **yy** = Insertion Length

Plastic Box Enclosure [PB]

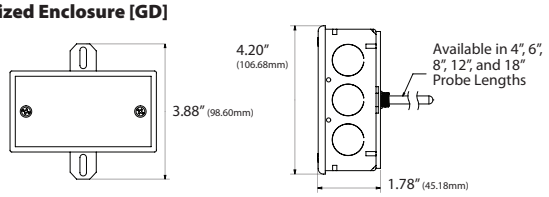


Plastic Box Enclosure [PB] Weights

ACI Model #	4" (Probe Length)	6" (Probe Length)	8" (Insertion Length)
A/xx-D-yy-PB	0.24 lbs. (0.109 kg)	0.25 lbs. (0.113 kg)	0.26 lbs. (0.117 kg)

ACI Model #	12" (Probe Length)	18" (Probe Length)
A/xx-D-yy-PB	0.28 lbs. (0.127 kg)	0.30 lbs. (0.136 kg)

Galvanized Enclosure [GD]

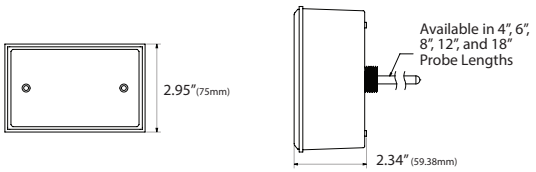


Galvanized Enclosure [GD] Weights

ACI Model #	4" (Probe Length)	6" (Probe Length)	8" (Insertion Length)
A/xx-D-yy-GD	0.66 lbs. (0.299 kg)	0.67 lbs. (0.303 kg)	0.68 lbs. (0.308 kg)

ACI Model #	12" (Probe Length)	18" (Probe Length)
A/xx-D-yy-GD	0.70 lbs. (0.317 kg)	0.74 lbs. (0.336 kg)

Bell Box Enclosure [BB]

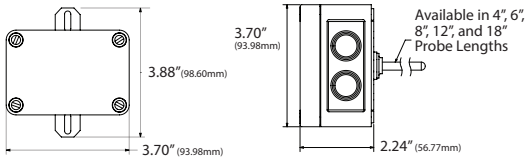


Bell Box Enclosure [BB] Weights

ACI Model #	4" (Probe Length)	6" (Probe Length)	8" (Insertion Length)
A/xx-D-yy-BB	0.70 lbs. (0.317 kg)	0.71 lbs. (0.322 kg)	0.72 lbs. (0.326 kg)

ACI Model #	12" (Probe Length)	18" (Probe Length)
A/xx-D-yy-BB	0.74 lbs. (0.336 kg)	0.78 lbs. (0.354 kg)

NEMA 4X Enclosure [4X]



NEMA 4X Enclosure [4X] Weights

ACI Model #	4" (Probe Length)	6" (Probe Length)	8" (Insertion Length)
A/xx-D-yy-4X	0.34 lbs. (0.154 kg)	0.35 lbs. (0.159 kg)	0.36 lbs. (0.163 kg)

ACI Model #	12" (Probe Length)	18" (Probe Length)
A/xx-D-yy-4X	0.38 lbs. (0.172 kg)	0.40 lbs. (0.181 kg)

Standard Views | **Product Weights**

CUSTOM ORDERING

Model # Example: A/ (A.) | 100 (B.) | 2W (C.) | D (D.) | 8" (E.) | GD (F.) | NIST (G.)

		MODEL #
A. Sensor Series *No Selection Required*	**A/** →	**A/**
B. Model Series *Select One (1)*	**100** = 100 Ohm | **1K** = 1K Ohm	
C. Number of Wires *Select One (1)*	**2W** = Two Wires | **3W** = Three Wires	
D. Configuration *No Selection Required*	**D** = Duct →	**D**
E. Probe Length *Select One (1)*	**4"** = 4" Probe | **6"** = 6" Probe | **8"** = 8" Probe | **12"** = 12" Probe | **18"** = 18" Probe	
F. Enclosure *Select One (1)*	**GD** = Galvanized | **PB** = Plastic | **BB** = Aluminum, NEMA 3R | **4X** = NEMA 4X	
G. NIST *Select One (1)*	**----** = No NIST Certificate | **NIST** = NIST Certificate (3 Points)	

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